for it. Fortunately, one is available, *T. lasius* Dall. A photograph of the type of the latter (pl. 1, fig. 6), furnished through the kindness of Dr. Alexander Wetmore, of the United States National Museum, appears to represent an unusually smooth specimen of the shell we have been calling *tenuisculptus*. Considering the remarkable amount of variation in this species (see pl. 1, figs. 1–5), which runs from almost smooth examples to ornately frilled ones, it is strange that more names have not been applied to it.

Tritonalia barbarensis (Gabb), a Recent shell described from Catalina Island, is figured by Dall (U. S. Nat. Mus. Bull., 112, 1921, pl. 6, fig. 5), and Oldroyd (Stanford Univ. Publ. Geol., 2, pt. 2, 1927, pl. 30, fig. 5). This species is also common in the upper Pliocene at Fifth and Hope streets, Los Angeles, at Santa Barbara, and in the lower Timms Point horizon at San Pedro. The Pliocene specimens are not quite the same as the Recent, differing in greater average number of axial ribs and less prominent spines at the shoulder. These features probably indicate a closer relationship to *T. squamulifera* in the Pliocene than exists today. *T. barbarensis* is a smaller, thinner, more slender shell than *squamulifera,* with relatively smaller aperture. However, there are Pliocene specimens of the two species that are quite similar.

Los Angeles Museum, Los Angeles, California.

NEW VARIETIES OF *ANGUISPIRA* AND *DISCUS*

BY GORDON M. KUTCHKA
CARNEGIE MUSEUM

While making a monographic study of the genera *Anguispira* and *Discus* in the Carnegie Museum as a thesis problem for my Master of Science degree, I discovered five new varieties. I am greatly indebted to Dr. S. T. Brooks for his aid in photographing the shells, also to Dr. H. A. Pilsbry for the privilege of studying the collection of Academy of Natural Sciences. These new varieties are:

ANGUISPIRA ALTERNATA JESSICA var. nov. Pl. 2, fig. 1.

Shell slightly elevated, light reddish-brown, somewhat shiny; surface above covered with rows of reddish squares, below with one row of these dots just beneath periphery; whorls 5½, angulated;

embryonic whorl covered with criss-cross markings; remaining whorls covered with rib-striations, which are prominent above, and weaker below; intermediate striae many, coarse and deep; spiral striae faint; periphery slightly angulated, possessing a slight carina in some specimens; aperture somewhat ovate, parietal wall with a very thin callus deposit; umbilicus narrow, deep, showing all inner whorls. Greater diam. 20.75, lesser 18.75 mm.; height 11 mm.

Type Locality: Stevenson, Jackson County, Alabama. *Holotype:* G. H. Clapp Collection, Carnegie Museum, No. 7102. *Paratypes:* Academy of Natural Sciences, Philadelphia, No. 169413, and United States National Museum, No. 471561. *Distribution:* Tennessee and Alabama.

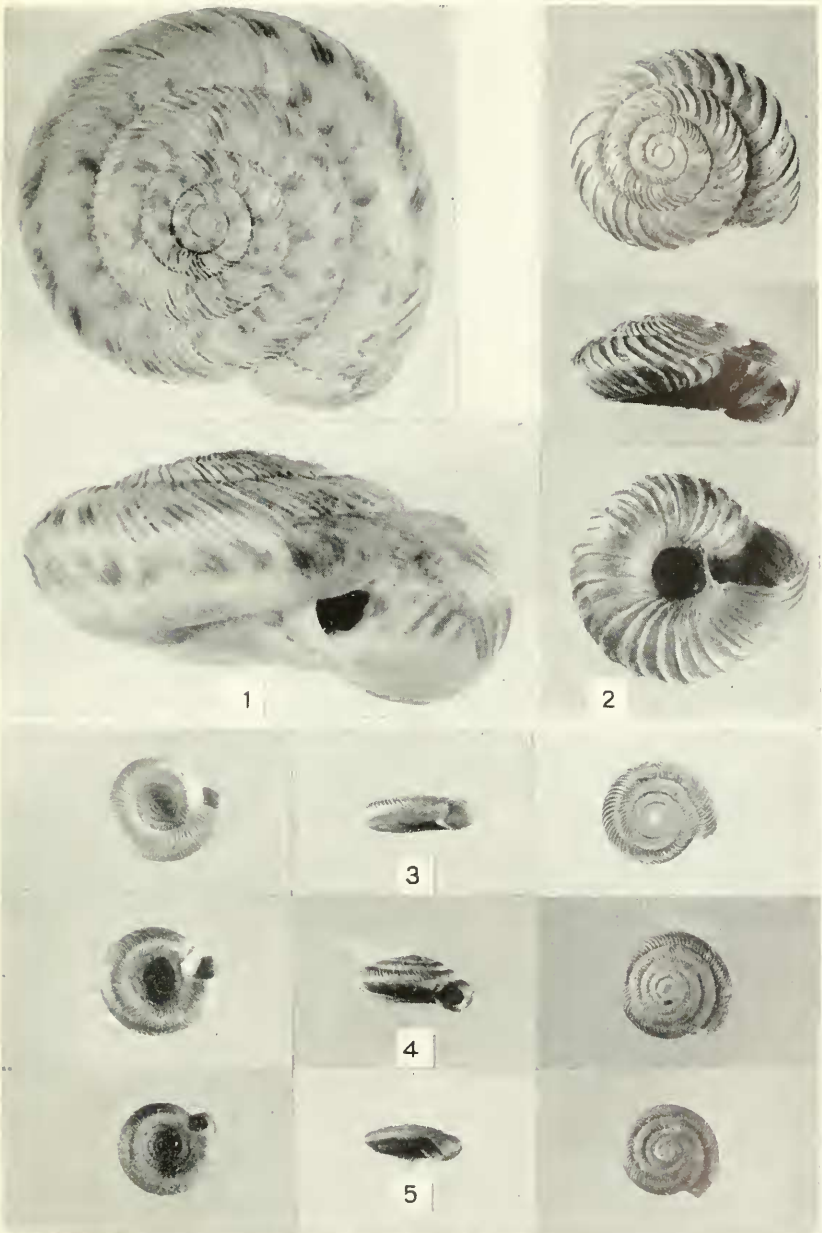
The slight carina places this variety close to some of the specimens of *A. alternata carinata* that are found in Tennessee and Alabama; these varieties also belong close to *jessica* in coloration. *A. alternata jessica* lacks the carina, flat shell, and rhomboidal aperture of *A. cumberlandiana columba* and *A. c. alabama.* This variety has been named in honor of my wife, who has been a constant companion and an ever present inspiration to me.

Anguispira alternata paucicostata var. nov. Pl. 2, fig. 2.

Shell slightly depressed, buckthorn-brown color, dull; spire slightly elevated; whorls 5½, flattened; embryonic whorl slightly criss-crossed; surface covered with only a few brown spots; heavily ribbed, the rib-striations continuing over the angulated periphery to the umbilical region; *rib-striations 1.5 mm. apart,* smooth on top; intermediate striae many, coarse and deep; spiral striae few and very faint, their continuation around whorls broken by rib-striations; aperture wider than high, rendered somewhat rhomboidal by slightly acute carina, parietal wall covered with a slight callus deposit; umbilicus narrow and deep, showing all inner whorls. Greater diam. 16.75, lesser diam. 13.75 mm., height 8.5 mm.

Type Locality: Mt. Mitchell, Buncombe County, North Carolina. *Holotype:* Carnegie Museum, Section of Recent Invertebrates, No. 62.30645.

The dorsal rib-striations are much like those found on *A. alternata costata,* but those of *paucicostata* are much further apart and they continue over the periphery to the umbilical region. The



1. Anguispira alternata jessica, diam. 20.75 mm.
2. Anguispira alternata paucicostata. ×2.
3. Discus patulus brooksi. ×2.
4. Discus patulus angulata. ×2.
5. Discus bryanti tuberculata. ×2.